Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for fabricating a bistable microelectromechanical system (MEMS) based system, comprising:

lithographically defining at least one beam having a specified non-linear shape corresponding to a first stable state of the at least one beam; ~~and~~

providing optical fibers between a position of the first stable state and a position of a second stable ~~state~~state;

providing a stop to contact the at least one beam before the at least one beam reaches the position of the second stable state; and

providing a ridge on the stop to reduce stiction between the stop and the at least one beam;

wherein the at least one beam is biased against the stop.

2. (Original) The method of claim 1, further comprising lithographically defining the at least one beam to have a certain geometry.

3. (Original) The method of claim 2, wherein lithographically defining the at least one beam to have a certain geometry comprises lithographically defining the at least one beam to have a certain height and a certain width, wherein the height is greater than the width.

4. (Original) The method of claim 1, further comprising forming a stop that contacts the at least one beam when the at least one beam is between the first and second stable states and near the second stable state.

5. (Original) The method of claim 1, further comprising determining a second stable state of the at least one beam by lithographically defining the at least one beam to have a certain geometry.

6. (Original) The method of claim 5, wherein lithographically defining the at least one beam to have a certain geometry comprises lithographically defining the at least one beam to have at least one of a certain length, a certain width and a certain curvature.

7. (Original) The method of claim 6, wherein lithographically defining the at least one beam to have a certain geometry further comprises lithographically defining the at least one beam to have a certain height.

8. (Original) The method of claim 1, further comprising determining a throw distance of the at least one beam between the first and second stable states by lithographically defining the at least one beam to have a certain geometry.

9. (Original) The method of claim 8, wherein lithographically defining the at least one beam to have a certain geometry comprises lithographically defining the at least one beam to have at least one of a certain length, a certain width and a certain curvature.

10. (Original) The method of claim 9, wherein lithographically defining the at least one beam to have a certain geometry further comprises lithographically defining the at least one beam to have a certain height.

11. (Original) The method of claim 1, further comprising determining a force curve of the at least one beam between the first and second stable states by lithographically defining the at least one beam to have a certain geometry.

12. (Original) The method of claim 11, wherein lithographically defining the at least one beam to have a certain geometry comprises lithographically defining the at least one beam to have at least one of a certain length, a certain width and a certain curvature.

13. (Original) The method of claim 12, wherein lithographically defining the at least one beam to have a certain geometry further comprises lithographically defining the at least one beam to have a certain height.

14. (Original) The method of claim 1, further comprising forming at least one of a thermal actuator, an electrostatic actuator, a piezoelectric actuator and a magnetic actuator adjacent the at least one beam.

15. (Original) The method of claim 14, wherein forming at least one of a thermal actuator, an electrostatic actuator, a piezoelectric actuator and a magnetic actuator adjacent the at least one beam comprises forming a thermal impact actuator.

16. (Original) The method of claim 14, wherein forming at least one of a thermal actuator, an electrostatic actuator, a piezoelectric actuator and a magnetic actuator adjacent the at least one beam comprises forming a zippering electrostatic actuator.

17. (Original) The method of claim 1, further comprising forming at least one fixed boundary condition of the at least one beam.

18. (Previously Presented) The method of claim 1, further comprising forming at least one bearing boundary condition of the at least one beam.

19. (Previously Presented) The method of claim 1, further comprising forming at least one spring boundary condition of the at least one beam.

20. (Original) The method of claim 1, wherein lithographically defining the at least one beam comprises patterning the at least one beam in a device layer of a silicon-on-insulator wafer.

21. (Original) The method of claim 20, further comprising defining a height of the at least one beam using a thickness of the device layer.

22. (Original) The method of claim 20, further comprising partially etching an insulator layer between the device layer and a substrate to release the at least one beam with part of the insulator layer remaining to anchor the at least one beam to the substrate.